

**EXHIBIT A**

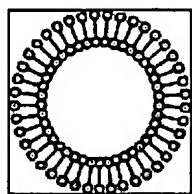
BJ Service Company v. Halliburton Energy Services

[Please see attached 7 pages]

**EXHIBIT B**

Avanti Polar Lipids Listing  
of Phosphatidylcholine Products

[Please see attached 5 pages]



**Avanti®**  
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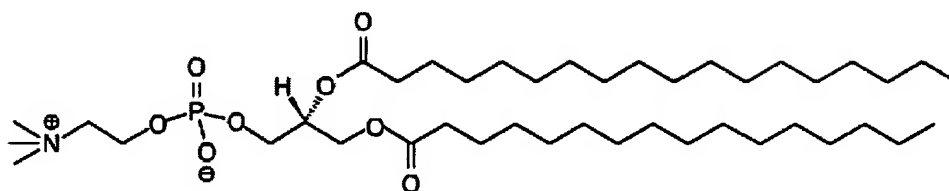
The Phospholipid and Sphingolipid People

Synthetic Products

# Phosphatidylcholine

Purity &gt;99%

Typical Phosphatidylcholine Structure



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1,2-Dimyristoyl-*sn*-Glycero-3-Phosphocholine

## Specifications for Phosphatidylcholine

### Physical Examination

**Powder:** White solid which contains no foreign matter and no more than a faint odor.

**Organic Solution:** Clear, colorless solution which contains no foreign matter.

### Identification

**GC:** The retention time of the principal peak of the sample chromatogram agrees with that of the chromatogram for the reference standard.

**TLC:** The  $R_f$  value and general appearance of the principal peak of the sample chromatogram agrees with that of the reference standard.

**HPLC:** The retention time of the principal peak of the sample chromatogram for the reference standard.

**FTIR:** The infrared absorption spectrum of the sample exhibits maxima only at the same wavelengths as that of the standard between the regions of 4000-500  $\text{cm}^{-1}$ .

**UV/Visible:** The UV/Visible absorption spectrum of the sample exhibits maxima only at the same wavelengths as that of the standard between the regions of 190-820 nm.

### Chromatographic Purity

**GC:** Not less than 99.0% (AUC).

**HPLC:** Not less than 99.0% (AUC).

**Specifications**

<b>TLC:</b>	One phosphorus positive spot
<b>GC:</b>	Conforms to appropriate standard
<b>HPLC:</b>	>99% diacyl compound

**Solubility****Short Chain Saturated (C3-C8)**

**Soluble:** Chloroform, Water

**Insoluble:** Acetone

**Long Chain Saturated (C9-C24)**

**Soluble:** Chloroform, Toluene, Methanol, Ethanol

**Insoluble:** Acetone, Water

**Long Chain Unsaturated (C14-C24)**

**Soluble:** Chloroform, Toluene, Methanol, Ethanol

**Insoluble:** Acetone, Water

**Stability**

**Storage:** -20°C

**Shelf Life:** 3 months - Polyene  
 ~ 6 months - Monoene  
 ~ 12 months - Saturated

**Description:**


The list of Phosphatidylcholine products offered by *Avanti* is designed to provide compounds having a variety of physical properties. Products available include short chain (C3-C8 are water soluble and hygroscopic), saturated, multi-unsaturated and mixed acid PC's.

All of the products are purified by HPLC, and special precautions are taken to protect the products for oxidization and hydrolysis. Several of these products are manufactured under cGMP guidelines and are available for pharmaceutical use. If you have a requirement for a choline derivative not found on our list, please call us: custom synthesis is one of our specialties.

**Notes**

Due to the high transition temperatures of the saturated products, it may be necessary to heat the solvent to solubilize the compound. Also, a small amount of methanol (0.1%) and water (0.05%) may be needed to hydrate the compound.


**Phosphatidylcholine (Asymmetric Fatty Acid)****1-Acyl-2-Acyl-*sn*-Glycero-3-Phosphocholine**

Carbon Number	1-Acyl	2-Acyl	M.W.	Catalog Number	
14:0-16:0	Myristoyl	Palmitoyl	706.00	850445	<a href="#">Product Data</a>
14:0-18:0	Myristoyl	Stearoyl	734.05	850446	<a href="#">Product Data</a>
16:0-14:0	Palmitoyl	Myristoyl	706.00	850454	<a href="#">Product Data</a>
16:0-18:0	Palmitoyl	Stearoyl	762.10	850456	<a href="#">Product Data</a>

16:0-18:1	Palmitoyl	Oleoyl	760.09	850457	<a href="#">Product Data</a>
16:0-18:2	Palmitoyl	Linoleoyl	758.07	850458	<a href="#">Product Data</a>
16:0-20:4	Palmitoyl	Arachidonoyl	782.09	850459	<a href="#">Product Data</a>
16:0-22:6	Palmitoyl	Docosaheptaenoyl	806.12	850461	<a href="#">Product Data</a>
18:0-14:0	Stearoyl	Myristoyl	734.05	850464	<a href="#">Product Data</a>
18:0-16:0	Stearoyl	Palmitoyl	762.10	850465	<a href="#">Product Data</a>
18:0-18:1	Stearoyl	Oleoyl	788.14	850467	<a href="#">Product Data</a>
18:0-18:2	Stearoyl	Linoleoyl	786.13	850468	<a href="#">Product Data</a>
18:0-20:4	Stearoyl	Arachidonoyl	810.15	850469	<a href="#">Product Data</a>
18:0-22:6	Stearoyl	Docosaheptaenoyl	834.17	850472	<a href="#">Product Data</a>
18:1-14:0	Oleoyl	Myristoyl	732.03	850474	<a href="#">Product Data</a>
18:1-16:0	Oleoyl	Palmitoyl	760.09	850475	<a href="#">Product Data</a>
18:1-18:0	Oleoyl	Stearoyl	788.14	850476	<a href="#">Product Data</a>

\*Specify Chloroform or Powder on the above products


## Phosphatidylcholine (Symmetric Fatty Acid) 1,2-Diacyl-*sn*-Glycerol-3-Phosphocholine (Saturated Series)

Carbon Number	Trivial	IUPAC	M.W.	Catalog Number	
3:0	Propionoyl	Trianoic	369.35	850302	<a href="#">Product Data</a>
4:0	Butanoyl	Tetranoic	397.41	850303	<a href="#">Product Data</a>
5:0	Pentanoyl	Pentanoic	425.46	850304	<a href="#">Product Data</a>
6:0	Caproyl	Hexanoic	453.51	850305	<a href="#">Product Data</a>
7:0	Heptanoyl	Heptanoic	481.57	850306†	<a href="#">Product Data</a>
8:0	Capryloyl	Octanoic	509.62	850315	<a href="#">Product Data</a>
9:0	Nonanoyl	Nonanoic	537.67	850320	<a href="#">Product Data</a>
10:0	Capryl	Decanoic	565.73	850325	<a href="#">Product Data</a>
11:0	Undecanoyl	Undecanoic	593.78	850330	<a href="#">Product Data</a>
12:0	Lauroyl	Dodecanoic	621.84	850335	<a href="#">Product Data</a>
13:0	Tridecanoyl	Tridecanoic	649.89	850340	<a href="#">Product Data</a>
14:0	Myristoyl	Tetradecanoic	677.94	850345	<a href="#">Product Data</a>

15:0	Pentadecanoyl	Pentadecanoic	706.00	850350	<a href="#">Product Data</a>
16:0	Palmitoyl	Hexadecanoic	734.05	850355	<a href="#">Product Data</a>
16:0 [(CH <sub>3</sub> ) <sub>4</sub> ]	Phytanoyl	3,7,11,15-tetra methylhexadecanoic	846.27	850356†	<a href="#">Product Data</a>
17:0	Heptadecanoyl	Heptadecanoic	762.10	850360	<a href="#">Product Data</a>
18:0	Stearoyl	Octadecanoic	790.16	850365	<a href="#">Product Data</a>
19:0	Nonadecanoyl	Nonadecanoic	818.21	850367	<a href="#">Product Data</a>
20:0	Arachidoyl	Eicosanoic	846.27	850368	<a href="#">Product Data</a>
21:0	Heneicosanoyl	Heneicosanoic	874.32	850370	<a href="#">Product Data</a>
22:0	Behenoyl	Docosanoic	902.37	850371	<a href="#">Product Data</a>
23:0	Trucisanoyl	Trocosanoic	930.43	850372	<a href="#">Product Data</a>
24:0	Lignoceroyl	Tetracosanoic	958.48	850373	<a href="#">Product Data</a>

\*Specify Chloroform or Powder on the above products

## Phosphatidylcholine (Symmetric Fatty Acid) 1,2-Diacyl-*sn*-Glycero-3-Phosphocholine (Unsaturated Series)

Carbon Number	Trivial	IUPAC	M.W.	Catalog Number	
14:1	Myristoleoyl	9-cis-tetradecenoic	673.91	850346	<a href="#">Product Data</a>
14:1	Myristelaidoyl	9-trans-tetradecenoic	673.91	85t346	<a href="#">Product Data</a>
16:1	Palmitoleoyl	9-cis-hexadecenoic	730.02	850358	<a href="#">Product Data</a>
16:1	Palmitelaidoyl	9-trans-hexadecenoic	730.02	85t358	<a href="#">Product Data</a>
18:1	Petroselinoyl	6-cis-octadecenoic	786.13	850374	<a href="#">Product Data</a>
18:1	Oleoyl	9-cis-octadecenoic	786.13	850375	<a href="#">Product Data</a>
18:1	Elaidoyl	9-trans-octadecenoic	786.13	85t375	<a href="#">Product Data</a>
18:2	Linoleoyl	9-cis-12-cis-octadecadienoic	782.09	850385	<a href="#">Product Data</a>
18:3	Linolenoyl	9-cis-12-cis-15-cis-octadecatrienoic	778.06	850395	<a href="#">Product Data</a>
20:1	Eicosenoyl	11-cis-eicosenoic	842.23	850396	<a href="#">Product Data</a>
20:4	Arachidonoyl	5,8,11,14(all -cis) eicosatetraenoic	830.14	850397	<a href="#">Product Data</a>

22:1	Erucoyl	13-cis-docosenoic	898.34	850398	<b><u>Product Data</u></b>
22:6	DHA	4,7,10,13,16,19 (all -cis) docosahexaenoic	878.18	850400	<b><u>Product Data</u></b>
24:1	Nervonoyl	15-cis-tetracosenoic	954.45	850399	<b><u>Product Data</u></b>

\*Specify Chloroform or Powder on the above products

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